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Relevance of Laboratory Functions on Graduates' Technological Literacy: A Non- Experimental Descriptive Correlational Approach

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Abstract
The advent of laboratory functions inside an institution greatly affects the technological literacy among students' approach to real-life situations. The study aims to determine laboratory functions' relevance to the graduates' technological literacy. The 181 graduate respondents participated in the study on a snowball method in data gathering. Frequency and simple percentage, weighted mean, Chi-Square Test of Independence, and One-way ANOVA were used to treat and interpret the data. The findings revealed that the graduate-respondents perceived laboratory functions to a Moderate Extent. It also revealed that graduates' technological literacy in the aspects of knowledge, capabilities, and ways of thinking and acting was perceived to a Moderate Extent. A genuinely huge connection between the degree of selection of laboratory facility capacities and the degree of innovative education was uncovered. Statistical significant differences in the extent of the adoption of laboratory functions, when grouped by its extent of contribution to these functions to attain graduates' technological literacy, were also identified. The study concluded that laboratory functions greatly affect and provide a significant role in graduates' literacy in technology. If more empowerment is given to the institution's laboratory functions, it will create an efficient and effective student resilient in the ever-changing environment of technology approaches.

Keywords: Business & accountancy, laboratory functions, technological literacy, descriptive- correlational, Mandaue City, Philippines

Introduction

The worldwide expression "technological literacy" alludes to one's capacity to utilize, oversee, assess, and get innovation. To be a mechanically proficient resident, an individual ought to comprehend what innovation is, how it functions, how it shapes society, and how society shapes it. Also, a mechanically educated individual has a few capacities to "do" innovation that empowers them to utilize their creativity to plan and assemble things and take care of commonsense mechanical issues. A quality of an innovatively educated individual is that they are comfortable with and objective about utilizing innovation neither terrified nor charmed by it. Innovative proficiency is substantially more than only information about PCs and their application. It includes a dream where each individual has a level of information about the nature, conduct, force, and results of numerous innovation parts from a true viewpoint (Dakers, 2014).

The global development in technology changes the way students learn and teachers teach as students and teachers can easily acquire new knowledge and skills through technology. Rapid technological advances need to be balanced and mastered by every prospective teacher by which current information is easily obtained from anywhere through internet facilities. The existence of technology is very close to students. Most students prefer to find references from the internet rather than reading books for various reasons ranging from efficiency, more references. Student knowledge is not limited to the classroom and library's learning process but from various materials and information on the internet (Santoso & Lestari, 2019).

In many colleges in the Philippines, innovative education intends to furnish understudies with the instruments to take an interest brilliantly and insightfully in their general surroundings. The sorts of things an innovatively educated understudy should know can differ from one society to another and from one time to another. As a rule, innovative proficiency envelops three related measurements: information, perspectives and acting, and understudies' abilities. Moreover, a mechanically proficient understudy won't really need broad specialized abilities. Such proficiency is more an ability to comprehend the more extensive innovative world than work with explicit bits of it. In any case, some experience with at any rate a couple of advances will be valuable as a solid reason for contemplating innovation. Somebody learned about the historical backdrop of innovation and fundamental mechanical standards however has no active abilities with even the most well-known advances can't be pretty much as innovatively educated as somebody who has those capacities (Thomas et al., 2002). The extent to which students can maximize the potential benefits of information from the online world depends, in a great measure, on the development of a set of skills that would make them effective users and decision-makers. While previous studies have revealed the role of university laboratories before knowledge, availability of ICT resources, and infrastructure in developing information-type skills, identifying other unexplored variables remains important in information science. Digital literacy commonly acquired by the students in the laboratory had a direct positive relationship with the online information searching strategies and a mediating factor to university students' technological literacy (Atoy et al., 2020)

Laboratory experiences are basic to the learning interaction across all examination zones, starting with kindergarten and proceeding through tertiary instruction. Exploration has shown that understudies who participate in all around planned research center encounters create critical thinking and basic reasoning abilities and gain openness to responses, materials, and gear in a lab setting. Supported interests in active encounters help rouse understudies to additional their schooling and set them up for high-innovation professions by cultivating abilities looked for by possible bosses.

However, in most universities in the Philippines, common scenarios were seen. A significant gap between students' teaching competencies prepared by the university and the teaching competencies required by the schools are evident. Such problems include hardware failure, difficulty on the use of software package, lack of follow-up on capability building, no available internet connection, limited access to the laboratory, and lack of repair/maintenance of the equipment in the laboratory. With the advent of technology in education, it greatly impacts the capability of the graduates to compete properly in the labor market. Such innovation in educational technology is an evident manifestation on how 21st century carves its upbringing to the students' trend in growth and development.

By the presented conditions, the researchers in the field of academe enabling business management discipline determines the relevance of laboratory functions to the graduates' technological literacy S.Y. 2018-2019. By the examination directed, the analysts proposed an intervention plan. This assessment expects the benefit of the College of Business and Accountancy. Additionally, this touches off the researchers to direct this examination to distinguish necessary change and mediation to enhance the department's educational technology approaches.

Framework

This assessment is secured on the Diffusion of Innovations Theory by (Rogers 2003).As indicated by (Rogers 2003), Dissemination of Developments (DOI) is the cycle by which an advancement is imparted through specific channels after some time among the members in a social framework. Advancement is a thought, practice, or article apparent as new by an individual or other appropriation unit. As indicated by (Rogers 2003), four fundamental components impact the spread of advancement. They are simply the development, correspondence channels, time important for embraced advancements, and a social framework that consolidates inward and outer impacts. It can likewise be perceived that there is a critical effect on HR, i.e., there ought to be a minimum amount of individuals who comprehend, embrace and spread the development. Something else, manageability isn't guaranteed. The unique instance of dissemination of development in advanced education is the execution of e-learning. Under the term, e-learning includes all instructive advancements beginning with innovation upheld learning and mixed learning and windingup with theenormous open online courses (MOOCs) and customized internet learning.

As per Bates and Sangrà (2011), it is a significant advancement in instruction. The advancement communication in an affiliation contains two standard get-togethers of activities (Rogers, 2003): (1) Initiation, including information party, conceptualization, and masterminding the appropriation of development, choice to embrace, and (2) usage, comprising of the multitude of occasions, activities, and choices engaged with placing the development into utilization.

Cognitive flexibility theory is another theory that supplements the above theory. According to Spiro et al. (2003), a theory is implemented in hypertext that provides an effective model for designing and developing computer-based instruction to support advanced knowledge acquisition, which professionals require to solve real-world problems. It is first important to recognize early on information, progressed information, and skill. Instructors at that point center around issues in planning guidance to help progressed information securing from PC based conditions.

Cognitive Flexibility Theory is about preparing people to select, adapt, and combine knowledge and experience in new ways to deal with situations that are different from the ones they have encountered before. With cognitive flexibility, Spiro makes a case for a different kind of instruction. Among this new approach's tenets are that instruction needs to provide students multiple representations of content, be case-based, and emphasize knowledge construction (instead of transmitting information). Knowledge sources should be highly interconnected. The application of these principles will help people to use knowledge in new ways to suit the purposes of different situations (Lowrey & Kim, 2009).

Constructivism Theory is the idea that people are responsible for making their comprehension of the world and using what they know based on previous experiences in linking new information to these experiences. People use these experiences and new information to construct their meaning (Bruner, 2019).

Constructivism is not a new way to deal with learning. Like most other learning hypotheses, constructivism has various roots in this century's philosophical and mental viewpoints, unequivocally in the advancement (Simonson et al., 2006). As of late, nonetheless, constructivism has gotten a "hot" issue as it has gotten expanded consideration in various orders, including instructional plans (Karagiorgi & Symeou, 2005).

Constructivism is a hypothesis that compares taking in with making importance as a matter of fact (Ertmer & Newby, 2013). Even though constructivism is viewed as a part of cognitivism (both consider learning as a psychological movement), it separates itself from customary intellectual speculations in various manners. Most intellectual therapists consider the psyche a reference device to this present reality; constructivists accept that the brain channels the world's contribution to creating its one-of-a-kind reality (Barell, 2010). Constructivism crosses the two classes by underscoring the communication between these two factors. The constructivist position accepts that move can be encouraged by the association invalid errands moored in significant settings. Since comprehension is "listed" by experience (similarly as word implications are attached to clear cases of utilization), the validity of the experience gets basic to the person's capacity to utilize thoughts (Ertmer and Newby, 2013).

Objectives of The Study

The study aims to determine laboratory functions' relevance to the graduates' technological literacy. It identifies the respondents' profile about gender, course major, employment status, and work nature. It also identifies the extent of graduates' perception of the adoption of laboratory functions on the following aspect: usage of software applications, management information systems, state-of-the-art apparatuses, teachers' intervention, and the learning environment. Furthermore, it seeks to identify the extent of graduates' technological literacy in terms of knowledge, capabilities, and ways of thinking and acting. The examination fills in as the reason for creating an intervention plan intended to enhance the department's educational technology approaches.

Methodology

Research Design

The investigation used the descriptive-correlational method for research to determine the laboratory's relevance in the College of Business and Accountancy to the graduates' technological literacy.

Research Environment

The study was conducted in the University of Cebu Lapu – Lapu and Mandaue campus originated at the College of Business and Accountancy Department. The College offers Accountancy and Business administration Programs. Additionally, online Social Media Platforms will be used to further reach out the survey instrument to intended graduate – respondents.

Research Respondents

The investigation study formulates an aggregate of 181 alumni respondents. Slovin's equation was used to decide the investigation's example size on the snowball inspecting strategy in information gathering.

Research Instrument

The assessment utilized the specialist made Review Poll inferred by Gallup, Inc., an American examination and warning organization situated in Washington, D.C. Established by George Gallup in 1935, the organization got known for its general assessments of public sentiment directed around the world. The survey would give the analysts clear access and reaction from the respondents. The instrument is divided into three sections. The beginning portion is the respondent's demographic. The following section is the extent to which respondents perceive the adoption of laboratory functions. The third section pertains to how the said functions contribute to attaining graduates' technological literacy.

Treatment of Data

Frequency and simple percentage, weighted mean, Chi-Square Test of Independence, and One-way ANOVA was used to treat the collected information.

Table 1 No. of graduate- respondents

Course Majors	f	Percentage
BSBA-MA	77	42.41
BSBA-FM	31	17.14
BSBA-MM	49	27.10
BSBA-HRDM	24	13.36
Total	181	100.00

Table 1 shows graduates' quantity - respondents utilizing snowball examining as the information gathering method.

Research Procedure

Data Gathering

To achieve the assessment study, the following procedures was observed. Letter of guide coordinated toward the Dean of CBA Department for data gathering, referencing that they consent to lead the examination. An alternate letter of request was similarly transported off to the University Registrar to identify the list of graduates from 2018 to 2019. The survey was administered through Google structure as the key instrument.

Results and Discussion

This part presents the consequences of the data accumulated. The initial segment gives the data on the extent of the adoption of laboratory functions. The next part pertains to the extent of attainment of Graduates' technological literacy.

Table 2 Extent of Adoption on Laboratory Functions

Variables	Mean	Interpretation	Rank
A. Usage of Software Applications			
Usage of Microsoft Word, PowerPoint, and excel to do organizational and business activities.	3.28	Great Extent	1
Computer applications were used to communicate and cascade classroom instructions.	3.27	Great Extent	2

Software applications are used for analysis, research, and instructional purposes.	3.15	Moderate Extent	3
The use of application software is in evaluation and computer assessment exercises.	3.03	Moderate Extent	4
Usage of Accounting applications such as SAP and QuickBooks to empower trend among students.	3.03	Moderate Extent	4
Aggregate Mean	**3.15**	**Moderate Extent**	
B. Management Information System			
It enables the students to develop and implement new ideas	3.24	Great Extent	1
Let the students understand both technology and the business environment through information systems.	3.24	Great Extent	1
The student was able to do strategic thinking, especially about technology.	3.24	Great Extent	1
Able to possess time and resource management	3.11	Moderate Extent	2
It enables good communication skills, both written and oral.	3.05	Moderate Extent	3
Aggregate Mean	**3.18**	**Moderate Extent**	
C. State-of-the-Art Apparatuses			
The laboratory uses comfortable seats and tables for the students.	2.80	Moderate Extent	1
The laboratory has updated computers for the students' to use.	2.78	Moderate Extent	2
Usage of widescreen projectors and televisions during class discussions.	2.76	Moderate Extent	3
Audible speakers, headsets, and microphones were used during class activities.	2.73	Moderate Extent	4
Usage of brand new printers and projector/ DLP.	2.70	Moderate Extent	5
Aggregate Mean	**2.75**	**Moderate Extent**	
D. Teachers Intervention			
The teachers share his/ her personal opinion and experience on the topic being discussed.	3.26	Great Extent	1
The teacher demonstrates his/ her expertise in computer literacy.	3.13	Moderate Extent	2
The teacher was able to provide students instructions based on agendas in software applications.	3.12	Moderate Extent	3
The teacher provides an assessment that enables the student to have practical exercises in the laboratory.	3.04	Moderate Extent	4
The teacher discussed topics through the use of laboratory apparatuses in the most effective manner.	3.03	Moderate Extent	5
Aggregate Mean	**3.11**	**Moderate Extent**	
E. Learning Environment			
Ensure that the classroom space is wide enough to make students comfortable during class discussions.	3.13	Moderate Extent	1
The department secures a classroom environment that is clean and free from the foul odor.	3.03	Moderate Extent	2
Secures that the environment is free from unnecessary noises outside.	2.83	Moderate Extent	3
Ensure that the classroom is well ventilated with functioning air-conditions.	2.77	Moderate Extent	4
The department secures a location of the laboratory that is right and just for the students to travel.	2.74	Moderate Extent	5
Aggregate Mean	**2.90**	**Moderate Extent**	
Overall Aggregate Mean	**3.02**	**Moderate Extent**	

Table 2 shows the extent of the adoption of laboratory functions in the usage of software applications, management information systems, state-of-the-art apparatuses, teachers' intervention, and learning environment.

As to usage of software applications, Microsoft Word, PowerPoint, and excel to do organizational and business activitiesgot the highest mean of 3.28 and interpreted as *Great Extent.* It implies that fundamental

software was taught by the instructors in the laboratory thoroughly. On the other hand, the use of application software is in the evaluation and computer assessment exercises. The sage of accounting applications such as SAP and QuickBooks to empower students' trend got the same lowest mean of 3.03 and interpreted as *Moderate Extent.* It implies that although it is being practiced, the student could not get that much-needed competency in that particular subject. As indicated by Cingi (2013), PC supported training (CAE) framework is a key to improve the viability and the nature of the schooling framework. PC training structures a piece of the school and school educational programs, as today is significant for each person.

As to Management Information System, enabling the students' to develop and implement new ideas and understand both technology and business environment through information systems got the highest mean of 3.24 respectively and interpreted as *Great Extent.* It implies that students' were able to define the importance of technology in the business environment by understanding its systems. On the other hand, good communication skills in both written and oral got the lowest mean of 3.05 and interpreted as *Moderate Extent.* Although the application of conceptualized knowledge is realized, the students cannot communicate both in written and oral. The interest for the executives' data frameworks (MIS) graduates has expanded as of late because the MIS degree will, in general, incorporate the information on PC innovation with business abilities. MIS program chiefs should continually refresh their projects to stay up with the data frameworks area's quick pace of progress. Also, bosses are searching for people with a solid framework direction and a decent comprehension of an integrative business esteem chain (Ike, 2002).

As to State-of-the-Art Apparatuses, the laboratory uses comfortable seats and tables for the students got the highest mean of 2.80 and interpreted as *Great Extent.* It implies that comfortable positions and equipment when doing laboratory work is important to the students' learning experience. On the other hand, brand new printers and projectors/ DLP got the lowest mean of 2.70 and interpreted as *Moderate Extent.* It implies that the laboratory lacks the most significant part of its functions, which is the students' updated equipment. It is basic for schools to have the most recent and great science lab supplies nowadays. Science is unique about some other subject. To comprehend its ideas, one needs to look past the books and customary homeroom instructing. Powerful educating and learning of science include seeing, taking care of, and controlling genuine items and materials. The information that children accomplish in homerooms would be incapable except if they notice the cycle and comprehend the connection among activity and response (Grant et al., 2009).

As to Teachers Intervention, sharing his/their personal opinion and experience on the topic being discussed got the highest mean of 3.26 and interpreted as *Great Extent.* It implies that the teacher highly contributed learning to the students based on his/her conceptualization.

On the other hand, the discussion on the topics through laboratory apparatuses in the most effective manner got the lowest mean of 3.03 and was interpreted as *Moderate Extent.* It implies that students want more engagement and hands-on discussion on the usage of laboratory apparatuses. As per Furberg (2016), the examinations of understudy educator cooperation's give knowledge into the impressive measure of help required from the instructor to connect the calculated hole between the lab try and the understudies' comprehension of the fundamental logical standards and strategies.

The learning environment ensures that the classroom space is wide enough to make students comfortable during class discussions got the highest mean of 3.13 and interpreted as *Moderate Extent.* It means that students want to have a comfortable classroom during class discussions. On the other hand, securing the right laboratory location and just for the students to travel got the lowest mean of 2.74 and interpreted as *Moderate Extent.* It implies that students want to have an accessible laboratory location for them to travel easily and conveniently. Most educators and understudies have inspirational mentalities as far as actual viewpoints; instructors see lighting and innovation as profoundly significant, yet furniture and hardware, space, air quality, and wellbeing as of moderate significance. Also, instructors' fulfillment from educating in the lab was positive, and a huge prescient connection between educators' view of lab learning conditions and their educating and learning fulfillment (Che Ahmad, 2013).

Table 3 Extent of Contribution on the attainment of Technological Literacy

Variables	Mean	Interpretation	Rank
A. Knowledge			

Comprehend that innovation is the consequence of human movement or development.	3.28	Great Extent	1
Ready to comprehend the innovation, which includes more than realities and data, and blend data into new bits of knowledge.	3.23	Moderate Extent	2
Comprehends that innovation mirrors the qualities and culture of the general public.	3.16	Moderate Extent	3
Perceive the inescapability of innovationin regular day to day existence and its dangers and advantages.	3.13	Moderate Extent	4
Ready to comprehend that innovation includes frameworks that are gatherings of interrelated segments intended to accomplish the ideal objectives by and large.	3.06	Moderate Extent	5
Aggregate Mean	**3.17**	**Moderate Extent**	
B. Capabilities			
Ready to apply inventive thoughts and feelings to answer applicable issues, issues, and concerns.	3.10	Moderate Extent	1
Can utilize and oversee innovative cycles and frameworks to improve their effectiveness and propriety.	3.09	Moderate Extent	2
Utilizations a solid framework, arranged, inventive, and profitable way to deal with pondering and tackling mechanical issues.	3.06	Moderate Extent	3
Utilizations ideas from science, arithmetic, social investigations, and other substance regions as instruments for comprehension and overseeing mechanical frameworks.	3.04	Moderate Extent	4
Empower to recognize fitting arrangements, evaluate and conjecture the consequences of actualizing the picked arrangement, and make an educated judgment about innovative dangers and advantages.	3.01	Moderate Extent	5
Aggregate Mean	**3.06**	**Moderate Extent**	
C.Ways of Thinking and Acting			
Partakes knowledgeably in choices about the turn of events and utilization of innovation	3.09	Moderate Extent	1
Appreciate the interrelationships among innovation and people, society, and the climate	3.09	Moderate Extent	1
Capable to understand and appreciate the significance of major innovative turns of events	3.06	Moderate Extent	2
Go about as issue solvers who think about mechanical issues from various perspectives, relate them to different settings, and pose relevant inquiries ofthemselves as well as other people with respect to the advantages and dangers of innovation.	3.01	Moderate Extent	3
Join different attributes from engineers, specialists, creators, craftsperson's, professionals, sociologists that are entwined and act synergistically	2.90	Moderate Extent	4
Aggregate Mean	**3.03**	**Moderate Extent**	

Table 3 shows the extent of contribution to the said functions to the attainment of graduates' technological literacy in knowledge, capabilities, and ways of thinking and acting.

Knowledge, understands that technology is the result of human activity or innovation, got the highest mean of 3.28 and interpreted as *Great Extent.* It implies that graduates perceived this prior knowledge upon learning the different laboratory functions. On the other hand, understanding that technology involves systems, which are groups of interrelated components designed to achieve the desired goals collectively, got the lowest mean of 3.06 and interpreted as *Moderate Extent.* It means that graduates perceived moderately the conceptof technology as a means of achieving desired goals. The innovative parts should be consolidated into instructive educational programs to give far-reaching and general schooling and encourage the comprehensive improvement of understudies' information. Further, technological knowledge is important to portray resilience in every problem encountered in this ever-changing environment of the 21st century (Buckley et al., 2019).

As to capabilities, able to exert innovative ideas and opinions to answer relevant problems, issues and concerns got the highest mean of 3.10 and interpreted as *Moderate Extent.* It implies that graduates learn to apply technological literacy in answering problems, issues, and concerns. On the other hand, it enables identifying appropriate solutions, assessing and forecasting the results of implementing the chosen solution, and making an informed judgment about technological risks and benefits got the lowest mean of 3.01 and interpreted as *Moderately Extent.* It means that graduates obtain the capability of choosing and implementing solutions to a particular situation. Mechanical capacity has been portrayed as a person's capacity to plan and grow new cycle items, update information and abilities about the actual climate remarkably, and change the information into directions and plans for effective production of wanted execution (Wang et al., 2006). Mechanical ability involves specialized authority ability, yet the ability to extend and send the company's center capacities, and viably consolidate the various floods of advancements and activate creative assets all through the organizations.

As to ways of thinking and acting, participating knowledgeably in decisions about the turn of events and utilization of innovation got the highest mean of 3.09 and interpreted as Moderate Extent. It means that graduates were able to apply their perceptions in making valuable decisions using technology. On the other hand, incorporating various characteristics from engineers, artists, designers, craftsperson's, technicians, and sociologists interwoven and acting synergistically got the lowest mean of 2.90 and interpreted as Moderate Extent. It implies that graduates were able to have collaborations with other fields to create synergies. In business, want is infrequently an issue. Most business pioneers are profoundly energetic to accomplish results. When they are disturbed, it is normally not an absence of want that causes their uprooting, but instead the inability to adjust their insight and abilities to new real factors. Propensities are incredible powers because the perspectives and acting they induce will, in general, work on a psyche level. When this occurs, information and ability frequently become natural, and the individual is viewed as a specialist. However long the information and the abilities stay important, the connected propensities are significant and valuable (Collins, 2018).

Table 4 Significant Relationship between the Respondents' Responses on the Extent of adoption of Laboratory Functions and the Extent of contribution of the said functions to the attainment of Graduates' Technological Literacy ($\propto = 0.05$)

Variables	Computed Chi-Square	df	Critical Value	Significance	Result
A. Knowledge					
Usage of Software Applications;	360.925[a]	120	146.567	Significant	Ho Rejected
Management Information systems;	376.849[a]	100	124.342	Significant	Ho Rejected
State of the Art Apparatuses;	399.490[a]	130	157.61	Significant	Ho Rejected
Teachers Intervention and;	433.102[a]	120	146.567	Significant	Ho Rejected
Learning Environment	425.982[a]	130	157.61	Significant	Ho Rejected
B. Capabilities					
Usage of Software Applications;	443.018[a]	132	159.814	Significant	Ho Rejected
Management Information systems;	363.378[a]	110	135.48	Significant	Ho Rejected
State of the Art Apparatuses;	372.973[a]	143	171.907	Significant	Ho Rejected
Teachers Intervention and;	553.648[a]	132	159.814	Significant	Ho Rejected
Learning Environment	470.308[a]	143	171.907	Significant	Ho Rejected
C. Ways of Thinking and Acting					
Usage of Software Applications;	318.837[a]	132	159.814	Significant	Ho Rejected
Management Information systems;	360.142[a]	110	135.48	Significant	Ho Rejected
State of the Art Apparatuses;	405.441[a]	143	171.907	Significant	Ho Rejected
Teachers Intervention and;	341.659[a]	132	159.814	Significant	Ho Rejected
Learning Environment	515.331[a]	143	171.907	Significant	Ho Rejected

Table 4shows the significant relationship between the respondents' responses on the extent of adoption of laboratory functions and the extent of contribution of the said functions to the attainment of graduates' technological literacy. The information uncovered that there is a genuinely critical relationship

(p=value<0.05) between the level of perceived laboratory functions and technological literacy among graduate-respondents. It implies that the more empowerment on making laboratory functions efficient and effective, the more it contributes to graduates' technological literacy. Moreover, when there is a good foundation on laboratory functions inside an institution it greatly affects the kind of graduates they may produce in the future. Innovative proficiency characterizes a serious vision for innovation instruction. Cooperating with serious matchless quality, innovative proficiency shapes the activities of the understudies. Experiences into the stem construction and connection of mechanical proficiency measurements are helpful for innovation instruction educational program plan and its execution. Furthermore, effectiveness on laboratory among institutions plays a significant role in the students' ability to be resilient and in coping up with the diverse labor market (Avsec & Jamšek, 2016).

Table 5 Significant difference in the Extent of the Adoption of Laboratory Functions when grouped by its Extent of Contribution to these Functions to attain Graduates' Technological Literacy (df = 11; $\propto$ = 0.05)

Grouped by	F-value	P-value	Significance	Result
A. Knowledge				
Usage of Software Applications;	10.859	0.000	Significant	Ho Rejected
Management Information systems;	33.884	0.000	Significant	Ho Rejected
State of the Art Apparatuses;	4.424	0.000	Significant	Ho Rejected
Teachers Intervention and;	11.145	0.000	Significant	Ho Rejected
Learning Environment	12.708	0.000	Significant	Ho Rejected
B. Capabilities				
Usage of Software Applications;	10.219	0.000	Significant	Ho Rejected
Management Information systems;	10.324	0.000	Significant	Ho Rejected
State of the Art Apparatuses;	6.623	0.000	Significant	Ho Rejected
Teachers Intervention and;	10.852	0.000	Significant	Ho Rejected
Learning Environment	6.847	0.000	Significant	Ho Rejected
C. Ways of Thinking and Acting				
Usage of Software Applications;	5.724	0.000	Significant	Ho Rejected
Management Information systems;	13.867	0.000	Significant	Ho Rejected
State of the Art Apparatuses;	4.319	0.000	Significant	Ho Rejected
Teachers Intervention and;	5.891	0.000	Significant	Ho Rejected
Learning Environment	9.219	0.000	Significant	Ho Rejected

Table 5 shows the critical distinction in the degree of the adoption of laboratory functions when grouped by its contribution to these functions to attain graduates' technological literacy. The information uncovered a genuinely critical contrast in the degree of contribution of the said laboratory functions to the attainment of graduates' technological literacy. It implies that the said laboratory function does not have an equal contribution in attaining students' technological literacy. As per Agbo (2015), the accomplishment of actualizing ICT in instructing and learning isn't reliant on the accessibility or nonattendance of one individual factor. Nonetheless, it is resolved through a powerful interaction including a bunch of interrelated elements. It is proposed that progressing proficient advancement should be given to educators to demonstrate the new instructional methods and devices for figuring out how to improve the educating learning measure. Notwithstanding, educator coaches and policymakers need to comprehend the components influencing the viability and cost-adequacy of various ways to deal with ICT use in instructor preparing, so preparing methodologies can be properly investigated to roll out such improvements reasonable to all.

Conclusion

The advent of laboratory functions inside an institution greatly affects the technological literacy among students' approach to real-life situations based on their knowledge, capabilities, and ways of thinking and acting. This study's findings revealed that the graduate-respondents perceived the following laboratory functions: usage of software applications, management information systems, state-of-the-art apparatuses, teachers' intervention, and the learning environment to a Moderate Extent. Furthermore, it reveals graduates'

technological literacy in the aspects of knowledge, capabilities, and ways of thinking and acting to a Moderate Extent. It also revealed a measurably critical connection between the respondents' responses on the extent of the adoption of laboratory functions and the extent of contribution of the said functions to the attainment of graduates' technological literacy. Additionally, genuinely critical contrasts were also seen in the extent of the adoption of laboratory functions when grouped by their contribution to these functions to attain graduates' technological literacy.

The study concluded that laboratory functions greatly affect and significantly impact graduates' literacy in technology. Suppose more empowerment is given to the institution's laboratory functions. In that case, it will create an efficient and effective student resilient in the ever-changing environment of innovation and technology approaches to real-life situations.

Recommendation

Based on the investigation results, the researchers proposed an intervention plan to achieve a great extent of adoption in laboratory functions that will result in a great extent of contribution to graduates' technological literacy. The institution must be viable to upgrade all necessary apparatuses inside the laboratory. Usage of accounting applications such as SAP and QuickBooks to empower trend among students must be highly realized, usage of brand new printers and projector/ DLP, instructors, must discuss topics through laboratory apparatuses in the most meaningful manner. Additionally, the department, together with the institution, must secure a laboratory location that is right and just for the students to travel.

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